SUPREME COURT, U. S.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1965.

No. 993

FLICK-REEDY CORPORATION,
Petitioner.

vs.

HYDRO-LINE MANUFACTURING COMPANY,
Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

JOHN REX ALLEN,
JAMES C. WOOD,
LLOYD W. MASON,
20 North Wacker Drive,
Chicago, Illinois 60606,
Attorneys for Petitioner.

HOFGREN, WEGNER, ALLEN, STELLMAN
& McCORD,
20 N. Wacker Drive,
Chicago, Illinois 60606.

THE GUNTHORP-WARREN PRINTING COMPANY, CHICAGO

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PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

Petitioner, Flick-Reedy Corporation, prays that a Writ of Certiorari issue to review the Judgment of the United States Court of Appeals for the Seventh Circuit entered in the above-entitled case on September 14, 1965.

OPINIONS BELOW.

The District Court rendered no opinion, but adopted Findings of Fact and Conclusions of Law, reported at 241 F. Supp. 127-142, which are included in the Appendix attached hereto. The decision of the Court of Appeals for the Seventh Circuit is reported at 351 F. 2d 546 (Seventh Circuit, 1965). A copy of that decision is also included in the Appendix.

JURISDICTION.

A Petition for Rehearing Before the Court of Appeals for the Seventh Circuit was filed on October 13, 1965, and denied on November 10, 1965. The jurisdiction of this Court is invoked under 28 U. S. C., Sec. 1254(1).

QUESTIONS PRESENTED.

1. Did the Court of Appeals for the Seventh Circuit err in holding a patent on a machine invalid under 35 U. S. C. 112, for failure to describe a particular metal cutting tool for making a portion of the machine invention?

2. Does the "best mode" provision of 35 U. S. C. 112, require a patentee to describe not only all physical aspects of the machine invention claimed but also the metal cutting tools by which it may be made where tools for the purpose were known at the time the patent application was filed?

STATUTE INVOLVED.

The statutory provision involved is the "best mode" provision of the Patent Act of July 19, 1952, 35 U. S. C. 112, which in pertinent part provides:

> "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, *and shall set forth the best mode contemplated by the inventor of carrying out his invention.*" (Emphasis supplied.)

STATEMENT OF THE CASE.

Petitioner, Flick-Reedy Corporation, instituted this action against Respondent, Hydro-Line Manufacturing Company, in the Eastern Division of the Northern District of Illinois alleging infringement of Petitioner's Patent No. 2,842,284.[1] Upon completion of a ten day trial, post trial briefs were filed by both parties. At the request of the Court, each of the parties submitted proposed findings of fact and conclusions of law. The trial Court adopted Respondent's findings of fact and conclusions of law in respect to Patent No. 2,842,284, holding the patent invalid and not infringed.

The Court of Appeals found Patent No. 2,842,284 invalid on a single ground. The Court did not decide the question of infringement. The patent describes and claims a machine invention, namely, a tubing end seal for a fluid operated piston and cylinder device. The patent specification describing the machine invention included the following sentence:

> "The outer surface 32 of the reduced thickness section is formed with a special tool so that it is absolutely concentric with the inner surface 33 of the tube."

The Court of Appeals held that the patentee's failure to disclose in his patent specific information about the "special tool" for machining surface 32 (a part of the claimed machine invention) rendered the patent invalid.

The adequacy and completeness of patentee's description of the physical properties and functioning of the claimed elements of the machine invention are not at issue in this Petition. The Respondent has never contended, in the Trial Court or in the Court of Appeals, that the claimed ma-

1. Infringement of a copyright and of a Patent No. 2,798,777 was also alleged, but the decision on these issues is not involved in this Petition.

chine invention was insufficiently disclosed or described in the patent specifications.[1] The Court of Appeals' decision does not assert any inadequacy or insufficiency of patent disclosure of the claimed invention.

Respondent elicited testimony from its own expert witness that a person skilled in the art could form surface 32 of the patented structure from the patent description. This is the only evidence on this point in the case (a 571).

Both Petitioner's witnesses and Respondent's witnesses testified that metal cutting tools were available by which the surface 32 could be formed (a 570-71, 579, 636).

In holding the patent invalid, the Court of Appeals concluded that the patentee had not complied with that portion of 35 U. S. C. 112, relating to "best mode" which provides:

> "The specification . . . shall set forth the best mode contemplated by the inventor of carrying out his invention."

Although Statute 35 U. S. C. 112 was enacted in 1952, the "best mode" provision has been a part of the patent statutes since 1870, and finds its antecedent provisions in the original Patent Act of 1790. The "best mode" provision has never been construed or interpreted by this Court.

The Court of Appeals in holding the patent invalid under the "best mode" provision of 35 U. S. C. 112 stated (A 40a):

> "We hold that the district court's findings on this point are not clearly erroneous and that its conclusion of invalidity because specific information about the 'special tool' was withheld in violation of 35 U. S. C. § 112 is supported by substantial evidence. On this issue we affirm the judgment."

---

1. Respondent in its Pleadings never alleged nor set up any defense of patent invalidity based upon inadequacy or insufficiency of patentee's disclosure of the physical properties or functioning of the claimed elements of the machine invention.

The structure described and claimed in the patent is a new end seal for the tubing and head of a piston and cylinder motor device which can be driven either by pneumatic or hydraulic fluid. The tubing is like a length of hollow pipe. Two heads (or caps), each a square block of steel, are large enough to close each open end of the tubing. Each head has a circular groove cut into one of its faces to receive an end of the tubing. The tubing and the head have concentric circular surfaces. The surface on the tubing faces outwardly to abut against a mating surface formed as the outer wall of the groove in the head.

The assembly of the cylinder tubing and the square heads is accomplished by four metal tie rods which pass lengthwise of the tubing and through the corners of the square heads. Internal pressure within the cylinder tubing tends to expand the tubing so as to urge the tubing and its surface outwardly toward the mating surface in the head groove. A ring of resilient material is positioned in the bottom of the head groove so that internal pressure in the tubing presses the resilient material toward the juncture of the cooperating mating surfaces to prevent leakage of internal fluid to the outside. The pressing of the surfaces together keeps the resilient material from extruding.

The patent is directed to a *machine invention,* not to a method. The patent claims specify cooperating mating surfaces on the cylinder tubing and in the head groove and the positioning of the resilient seal material at the juncture of the cooperating surfaces. None of the patent claims is directed to a method of forming or assembling the elements of the machine described in the patent.

REASONS FOR GRANTING THE WRIT.

1. The Court Applied a Non-Statutory and Improper Test for Determining Adequacy of a Patent Specification.

The statutory requirements of a patent specification are set forth in 35 U. S. C. 112, first paragraph, and provide two requirements of a patent specification, the first being *that the patent specification*:

> ". . . shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, . . .";

and the second requirement being that the patent specification:

> ". . . shall set forth the best mode contemplated by the inventor of carrying out his invention."

The trial Court in Finding 7 (A 3a, a 675) found that the patent in suit "is directed primarily to the connection between the head and the barrel or tube of the cylinder shown in Figure 4 of this patent . . ."[1] In conclusion of law No. 9 (A 26a, a 697-8) the District Court held:

> "Plaintiff's patent No. 2,842,284 is invalid, because in withholding specific information on the 'special tool' used to finish the pilot surfaces, plaintiff has not complied with the statute requiring a patent applicant to set forth the best mode of practicing the invention contemplated by him (35 U. S. C. 112)."

The Court of Appeals affirmed this part of the District Court decision (A 40a).

Tests applied by the Court below are not the statutory

1. A printed copy of patent 2,842,284 is the first document in "Book 1 of 2 Exhibits Re Patent No. 2,842,284".

tests nor the tests previously applied by the Seventh Circuit. In the last four cases in the Seventh Circuit wherein the question of the adequacy of a patent specification was brought before the Court, the Court has found that patents satisfy Section 112 if the *invention* is adequately described. No specific reference has been made to the "best mode" second part of the first paragraph of Section 112.

In *Binks Mfg. Co.* v. *Ransburg Electro-Coating Corp.*, 281 F. 2d 252 (C. A. 7, 1960) relating to method and apparatus for electro-static spray painting, there was an allegation of an inadequate disclosure in specifying values of voltage, spacing and liquid characteristics. The Court held the patent valid, saying at page 256:

> "We find no merit in plaintiff's contention that the method claims fail to satisfy the requirements of the patent statute (35 U. S. C. A. § 112) because they merely cite a desired result rather than the means for producing the same, and because of incompleteness due to failure to specify voltages, spacing, and liquids to which they are applicable. The process claims define the specific steps of procedure and the specifications being addressed to those skilled in the art *(Highway Appliances Co.* v. *American Concrete Expansion Joint Co.*, 7 Cir., 93 F. 2d 113) need not recite details."

The "best mode" portion of Section 112 was not referred to.

The next year, the Seventh Circuit had before it *Elgen Mfg. Corp.* v. *Grant Wilson Incorporated*, 285 F. 2d 476 (C. A. 7, 1961), relating to a method of making prefabricated coil products for use in ducts of heating systems, wherein tension applied to the coil would prevent buckling and wrinkling. A defense was presented that the patent specifications failed to explain what happened when torque was applied. Here again, the Court held the patents valid and the specifications adequate, saying at page 479:

> "We hold that the plaintiff's patents in suit were not invalid because plaintiff may not have fully ex-

> plained in the specification that by applying the torque to the coiling reel, the outermost metal strip would travel faster and the fabric immediately attached would stretch. Goldsmith did discover a method whereby the product came from the machine free from wrinkles and the metal strips did not 'buckle or bow.' The patent adequately disclosed how to put this discovery into practice."

Again, there was no reference to "best mode".

In *Hazeltine Research, Inc.* v. *Dage Electric Co., Inc.*, 271 F. 2d 218 (C. A. 7, 1959), the invention involved a connector section for coaxial transmission cables in which the impedance in the section was balanced. A defense was presented that the patent specification was inadequate. The Court held that in view of expert testimony that one skilled in the art could practice the invention from the terminology of the patent, the patent specification was adequate under the statute. The Court stated at page 220:

> "The Supreme Court has repeatedly held that a specification in letters patent is sufficiently clear and descriptive when expressed in terms intelligible to a person skilled in the art to which it relates. *Webster Loom Co.* v. *Higgins,* 1881, 105 U. S. 580, 26 L. Ed. 1177; *Seabury* v. *Am. Ende.,* 1894, 152 U. S. 561, 567, 14 S. Ct. 683, 38 L. Ed. 553; *Carnegie Steel Co.* v. *Cambria Iron Co.,* 1902, 185 U. S. 403, 437, 22 S. Ct. 698, 46 L. Ed. 968."

There was no reference to "best mode".

The latest case found, in which the Seventh Circuit decided the adequacy of patent specification under Section 112 was *Briggs* v. *M & J Diesel Locomotive Filter Corp.*, 342 F. 2d 573 (C. A. 7, 1965). The patent related to a pleated paper filter with the pleats being of unequal depth. A defense to the patent was that the patent specification failed to specify what was meant by walls of unequal depth

and violated Section 112. The Court held the patent valid, saying at page 579:

> "Those skilled in the art would be conversant with the range of inequality of pleat depth involved. We perceive no error in the court's findings and conclusions that the patent claims are not invalid for indefiniteness."

In each of these cases presented before the Seventh Circuit the question of the adequacy of a patent specification under 35 U. S. C. 112 has been tested solely as to description of invention enabling those skilled in the art to make use of the invention. The Courts below in the instant case committed error in holding that the patent specification is inadequate as to the invention described when it failed to describe a tool for making the invention.

2. The Court Erred in Not Holding That the Statutory History of 35 U. S. C. 112 Should Be Interpreted So That the "Best Mode" Provision Means "the Best Structural Embodiment" of the Invention.

The precise words of the first paragraph of 35 U. S. C. 112 have been in the patent statutes since 1952. However, the substance of this paragraph is very old and has been part of the statutory patent law since the year 1790. The 1790 Statute provided that a patentee should file a specification in writing so particular

> ". . . as not only to distinguish the invention . . . from other things before known and used, but also to enable a workman or other person skilled in the art . . . to make, construct or use the same, to the end that the public may have the full benefit thereof, after the expiration of the patent term." (Act of April 10, 1790, c. 7, Sec. 2; 1 Stat. 109.)

The word "modes" entered the statute three years later. The 1793 statute specified that "in the case of any ma-

chine" the inventor "fully explain the principle, and the several modes in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions" (Act of February 21, 1793, c. 11, Sec. 3; 1 Stat. 318).

In 1836 the Patent Statute was again revised and "modes" was again referred to in the following language:

> ". . . and in the case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle . . . by which it may be distinguished from other inventions" (Act of July 4, 1836, c. 357, Sec. 6; 5 Stat. 117).

In 1870 the statute again referred only to a "machine" but changed "several modes" to "best mode" (Act of July 8, 1870, c. 230, Sec. 26; 16 Stat. 201). This "best mode" provision remained in the Patent Statute in the two succeeding Patent Statute changes, and just prior to the 1952 Patent Codification, the Statute was contained in 35 U. S. C. 33 as follows:

> "Before any inventor . . . shall receive a patent for his invention . . . he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office,
>
> "a written description of the same, and of the manner and process of making, constructing, . . . and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains . . . to make, construct, . . . and use the same;
>
> "and in the case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions . . ." 35 U. S. C. A. Appendix II, page 818.

Through 159 years, mode in the statutes meant an embodiment of a machine. The patent in suit is on a machine. All categories of invention were caused to come under the present statute, 35 U. S. C. 112. Specifically, the statute no longer limited the "best mode" requirement to inventions in machines, but required such a disclosure on any type of invention, whether that invention is a manufacture, a composition of matter, or a new and useful process. In its broadened application, the statute continues to relate "best mode" to the disclosure of an invention.

In the present case, the invention is the cylinder end seal in a piston and cylinder device. Section 112 requires that this particular cylinder end seal be disclosed in the specification, and that the best embodiment of that invention known to the patentee at the time he filed his application, be disclosed. This was done in Patent 2,842,284. The patent specification satisfies all requirements of Section 112.

No case in the Supreme Court has been found specifically interpreting the "best mode" provision of Section 112 or the "best mode" provision as it has existed in the Patent Laws since 1870. Several case reports interpret the first sentence of the first paragraph relating to the adequacy of a disclosure. Substantially the reverse situation from that presented in the instant case was presented in *Expanded Metal Co.* v. *Bradford*, 214 U. S. 366, 53 L. Ed. 1034 (1909), wherein a process patent was involved. The process was for the making of expanded sheet metal. The patent was there attacked on the theory that it did not disclose the mechanism for forming the process.[1] The Supreme Court held the patent valid, stating that the inventor mentioned a stationary cutter and an upper cutter

1. This is the reverse of Petitioner's situation involving a machine. The defense is that the tool for making the machine is not disclosed.

and that one skilled in the art would know how to arrange and construct the appropriate devices for carrying out the process claimed.

3. The Court of Appeals Decision Is in Conflict With Decisions on Appeal From the Patent Office Interpreting the "Best Mode" Provision.

Respondent below produced an expert witness, the Dean of an Engineering School, who expressed the opinion that a person skilled in the art could make the invention from reading the patent (a 571). The patentee on cross-examination explained that tracer tools of four types were commercially available for cutting the metal (pilot) surfaces forming a part of the cylinder end seal (a 570-1). There was testimony that the Defendant's accused devices were made with a cutting tool on a lathe (a 579). The expert witness further testified that if asked to make the cylinder end seal shown in the patent, he could do so (a 636).

The foregoing is the sole evidence in the record as to the ability of a person skilled in the art to make the invention. The defense of Respondent was that the special tool mentioned in the specification of the patent was not disclosed. The expert could not identify the tool from the words "special tool". Petitioner's position is that the invention is and would still be described as fully and as completely as is required by 35 U. S. C. 112 whether or not any tools were mentioned in the patent.

Respondent did not plead or assert that the patent description of the machine invention was insufficient. The addition of the words "special tool" to a patent description which is adequate and sufficient cannot in good logic render that patent description insufficient.

The Court ruled that the patent was invalid for failure to comply with the second portion of the first paragraph of

Section 112, emphasizing that portion of the statute with italics, such portion stating:

> ". . . *and shall set forth the best mode contemplated by the inventor of carrying out his invention.* (Emphasis supplied.)" (A. 40a.)

The position of the Seventh Circuit is contrary to that of the Court of Customs and Patent Appeals, interpreting the best mode provision. The requirements of the first paragraph of Section 112 were quite clearly set out by the Court of Customs and Patent Appeals in *Application of Gay*, 309 F. 2d 769 (1962). Judge Rich, speaking for the majority, divided the first paragraph of Section 112 into parts A and B, as follows, at page 772:

> "We have set forth the Patent Office position in some detail as we feel that it confuses, and in fact is in part contrary to, two of the several requirements of the first paragraph of 35 U. S. C. § 112. This paragraph reads as follows:
>
> > '[A] The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall
> >
> > '[B] set forth the best mode *contemplated by the inventor* of carrying out his invention.' [Emphasis ours.]"

In both parts A and B as set out by Judge Rich, the requirements of the statute are related to the *invention* which in our instant case is the tubing end seal in a piston and cylinder motor device. Respondent below led the Courts into the error of relating part B to something which is not the invention. Judge Rich went on to explain the essence of the portions A and B of the statute in the following language, at page 772:

> "The essence of portion [A] is that a specification shall disclose an invention in such a manner as will enable one skilled in the art to make and utilize it. *Separate and distinct* from portion [A] is portion [B], the essence of which requires an inventor to disclose the best mode *contemplated by him,* as of the time he executes the application, of carrying out his invention. Manifestly, the sole purpose of this latter requirement is to restrain inventors from applying for patents while at the same time concealing from the public preferred embodiments of their inventions which they have in fact conceived."

In the instant case the Court made no reference to the embodiments of the cylinder end seal, two of which are disclosed in the patent, nor was there any holding that the disclosure as to the cylinder end seal was deficient. From the decision of the Court (A. 40a) there can be no doubt that the Court held the patent invalid for failure to disclose a metal cutting tool and held the patent invalid upon the [B] part of Sec. 112, first paragraph. As to the portion [B], Judge Rich definitely indicated that embodiments of the invention disclosed in the patent would satisfy the statute. His language at page 772 is:

> "As we view portion [B], we think that an inventor is in compliance therewith if he does not conceal what he feels is a preferred embodiment of his invention."

"Best mode" in the statute relates only to *invention.* No metal cutting tool of any nature whatsoever could form a part of the present invention because the invention has to do only with the surfaces and resilient seal and their relationship to each other as they occur in a piston and cylinder device. The Court misapplied the "best mode" requirements of Section 112 and invalidated the patent because the patent specification stated that one of the surfaces could be formed with a special tool not otherwise identified. Under the principles announced in *Application*

of Gay, supra, and from the plain reading of Section 112, the patentee complied with the statute when he described fully the cylinder end seal and all its parts.

The position of the Court of Customs and Patent Appeals has been cited with approval and followed subsequently in the United States Court for the District of Columbia in *Kollsman* v. *Ladd*, 226 F. Supp. 186, 189 (1964). The decision was also followed with approval in a later decision of the Court of Customs and Patent Appeals in *Application of Fuetterer*, 319 F. 2d 259, 262 (1963). The decisions on appeal from the Patent Office in the courts are irreconcilable with the decision of the Court of Appeals in this case.

4. The Court Erred in Failing to Follow the Guide Lines Set Out in Prior Decisions of the Supreme Court That 35 U. S. C. 112 Relates Only to Disclosure of the Invention.

No Supreme Court decision has been found defining "best mode". Decisions under Section 112 and its predecessors, test patent disclosure adequacy on the objective basis of whether one skilled in the art finds direction in the patent sufficient to practice the invention. In 1876, this Court pointed out that a patent on an article did not have to describe the processes for making the article, especially where it required only a description of the article for persons skilled in the art to know how to reproduce it. The reference is to *Cohn* v. *United States Corset Co.*, 93 U. S. 366-379, 23 L. Ed. 907. The statement referred to a prior patent disclosure and to the defense that the same was non-anticipatory because, while disclosing the article, the prior patent did not describe the processes by which it could be made. The Court stated at 377:

"It is quite immaterial, even if it be a fact, that the

> Johnson specification is insufficient to teach a manufacturer how to make the patented corset. It is enough if it sufficiently describes the corset itself. Neither it nor the plaintiff's specification exhibits the process of making. Neither of them set up a claim for a process. The plaintiff claims a manufacture, not a mode of making it; and the important inquiry, therefore, is, whether the prior publication described the article."

While the Court was speaking of the sufficiency of a prior patent's specification rather than that of a patent in suit, its statement is equally applicable to the latter. The same question was presented i.e., the sufficiency of the teaching of the specification to enable a person skilled in the art to practice the invention.

In *Ives* v. *Hamilton,* 92 U. S. 426, 23 L. Ed. 494 (1876) the invention had to do with an improvement in saw mills. The defense of inadequate disclosure related to a failure to describe the position in which the guides should be placed on the saw. The Supreme Court held the invention adequately described and the patent valid, stating at page 431:

> "As to the alleged defect of the patent, there is nothing in the objection. The invention claimed is an improvement on an old machine, and it is properly taken for granted that the practical mechanic is acquainted with the construction of the machine in which the improvement is made; * * * We think that there is no ground for either branch of the objection. The description in the patent is sufficiently specific; * * *"

In *Ives* v. *Hamilton,* the Supreme Court examined the patent disclosure on the basis of what it disclosed about the invention. In Petitioner's case the patent has been declared invalid on the lack of disclosure of a metal cutting tool forming no part of the invention.

In *Webster Loom Co.* v. *Higgins, et al.,* 105 U. S. 580,

26 L. Ed. 1177 (1882) the patent involved was an improvement in looms for weaving rugs and the like. The defense was that the patent specification failed to specify how the patented improvement could be made in existing looms. However, the Court held that those skilled in the art would be able to make and use the improvement in existing looms and therefore the patent adequately described the improvement in conformity with the then existing statute on the requirements of a patent disclosure.

In *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.*, 261 U. S. 45, 67 L. Ed. 523 (1923), the improvement claimed in the patent was in a paper making machine. The adequacy of the specification was in issue over terms in the patent, "substantial" and "high", used in designating the amount of pitch to be given to the wires of the Fourdrinier machine. This patent was also held valid in view of the Court's finding that one skilled in the art of making paper and versed in the use of the Fourdrinier machine would have no difficulty applying the invention. Here again, the test of the patent disclosure adequacy was as to the description of the invention and not some tools or processes for making the machine.

In *Permutit Co.* v. *Graver Corp.*, 284 U. S. 52, 76 L. Ed. 163 (1931), the patent was held invalid. The actual invention was the means to obtain a free bed of zeolite in a water softener. The failure of the patent specification was a lack of description related directly to the subject of the invention, the zeolite bed in the water softener. This case stands for the proposition that the statute requiring a disclosure of the invention is to be tested as to its information given to those skilled in the art about the invention.

It does not appear that the Supreme Court has given any decision directly related to the "best mode" portion of 35 U. S. C. 112. The Court of Customs and Patent Appeals has clearly stated that the statute relates to the

disclosure of the invention and not to manufacturing tools or manufacturing processes which might be used in making the invention. *Application of Gay,* 309 F. 2d 769 (1962).

The Supreme Court has used the term, best mode, in a manner indicating that the term is to be interpreted as meaning an embodiment of a machine invention. In *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.,* 210 U. S. 405, 52 L. Ed. 1122 (1908), Mr. Justice McKenna stated at 418:

> "We think it is clear that the court considered that Liddell sought to comply with §4888 of the Revised Statutes (U. S. Comp. Stat. 1901, p. 3383). * * * In other words, he filed a description of his invention, explained its principle, and the best mode in which he 'contemplated applying that principle' and did not intend to give up all other modes of applications. An inventor must describe what he conceives to be the best mode, but he is not confined to that. If this were not so most patents would be of little worth. 'The principle of the invention is a unit, and invariable; the modes of its embodiment in the concrete invention may be numerous and in appearance very different from each other.' 2 Robinson, Patents, §485."

5. An Old and Important Question of Federal Law Should Be Settled by This Court.

This Court should settle the meaning and applicability of 35 U. S. C. 112 as to the "best mode" provision thereof, under this Court's Rule 19, 1 (b). At least since the case of *Webster Loom Co.* v. *Higgins,* 105 U. S. 580, 26 L. Ed. 1177 (1882), the law has been well established that a patentee has sufficiently described his invention if a person skilled in the art is enabled to practice the invention from the description. That which is well known need not be described. The purpose of such a rule is to focus the patent description on the invention or improvement. As stated in the *Webster Loom* case, supra, at 585-86:

> "If a mechanical engineer invents an improvement on any of the appendages of a steam-engine, such as the valve gear, the condenser, the steam-chest, the walking beam, the parallel motion, or what not, he is not obliged, in order to make himself understood, to describe the engine, nor the particular appendage to which the improvement refers, nor its mode of connection with the principal machine. These are already familiar to others skilled in that kind of machinery. He may begin at the point where his invention begins, and describe what he has made that is new, and what it replaces of the old. That which is common and well known is as if it were written out in the patent and delineated in the drawings."

The effect of the Court of Appeals decision predictably will change patent specifications by lengthening the same materially to include description of tools, dies, jigs, processes, materials and manufacturing procedures for every machine patent sought. To omit same would jeopardize the validity of a patent on an article, particularly in the Seventh Circuit under the decision below. The result will be much longer patent specifications which will tend to obscure the inventions and make the examining procedure of the Patent Office more difficult.

The meaning of the "best mode" as used in 35 U. S. C. 112 should be settled by this Court. Limitation of the Statute to description of the invention claimed in a patent would serve to simplify specifications submitted to the Patent Office with benefit to the public in ascertaining the true subject of the resulting patents.

CONCLUSION.

The Court of Appeals and the District Court erred in applying a standard of disclosure adequacy for a patent on a machine, which is inconsistent with 35 U. S. C. 112. It does not appear that the Supreme Court or the Court of

Appeals for the Seventh Circuit has had occasion to define the meaning of the "best mode" portion of 35 U. S. C. 112. The decision of the Court of Appeals appears to be contrary to its former decisions and contrary to the decisions of this Court and particularly contrary to the decisions of the Court of Customs and Patent Appeals in considering the adequacy of a patent specification. *Application of Gay*, 309 F. 2d 769 (1962).

The decision of the Court of Appeals runs contrary to the evidence in the case that metal cutting tools for making the cylinder end seal of the patent in suit were known, and whether the patentee disclosed what he used in his own manufacture is inconsequential and should not be a basis for holding the patent invalid under 35 U. S. C. 112.

An important question of Federal Law has not been and should be settled by this Court. This Court's consideration of the "best mode" provision and its guidance of the lower courts in interpreting the statute is clearly needed.

For the above stated reasons, a Writ of Certiorari should be granted.

Respectfully submitted,

JOHN REX ALLEN,
JAMES C. WOOD,
LLOYD W. MASON,
20 North Wacker Drive,
Chicago, Illinois 60606,
Attorneys for Petitioner.

Of Counsel:
HOFGREN, WEGNER, ALLEN, STELLMAN & MCCORD,
20 N. Wacker Drive,
Chicago, Illinois 60606.

APPENDIX.

FINDINGS OF FACT, CONCLUSIONS OF LAW AND DECREE OF THE DISTRICT COURT (ENTERED MAY 14, 1964) AND MODIFICATION OF DECREE (ENTERED JULY 1, 1964).

UNITED STATES DISTRICT COURT.

* * (Caption—59-C-25) * *

FINDINGS OF FACT AND CONCLUSIONS OF LAW.

This cause heretofore having come on for trial upon the pleadings and proceedings had herein, the court has considered the evidence and has examined the exhibits introduced as well as the briefs submitted by counsel. The court observes that counsel in this case are to be complimented for the outstandingly fine manner in which they presented their cases and for the excellent briefs which they submitted.

The court finds the facts and states the conclusions of law as follows:

FINDINGS OF FACT.

THE PARTIES AND JURISDICTION.

1. Plaintiff, Flick-Reedy Corporation, is an Illinois corporation located in Bensenville, Illinois, and engaged in the business of manufacturing and selling hydraulic and pneumatic cylinders and related products. Cylinders of this type are used as motors and include a reciprocating piston within a fluid-tight cylinder. The piston and piston rod connected thereto are moved to and fro by fluid pressure admitted to the cylinder. Plaintiff was incorporated in 1952,

and was successor in business to Miller Motor Company, which was a partnership formed in 1945. Plaintiff is the owner of copyright registration certificate A-338557 for a copyright on plaintiff's Bulletin JH-104N entitled "Hydraulic Cylinders." Plaintiff also is the owner of U. S. Letters Patent No. 2,798,777 of Flick and Kudlaty for a lug mount for cylinders, and Patent No. 2,842,284 of Flick for a particular cylinder head and tube seal arrangement for cylinders.

2. Defendant, Hydro-Line Manufacturing Company, is an Illinois corporation located in Rockford, Illinois, and has been engaged in the business of manufacturing and selling hydraulic and pneumatic cylinders since 1946.

3. This Court has jurisdiction of the parties and the subject matter of the complaint and counterclaim. No issue is presented as to venue.

THE ISSUES.

4. In the complaint, plaintiff charged defendant with infringement of patent No. 2,842,284, referred to hereafter as the "seal" patent, by selling and offering for sale hydraulic cylinders designated Series R-2. By stipulation at the trial, plaintiff also charged infringement by other models S-2, T-2 and N-2 of defendant, and restricted the charge to claims 1, 2 and 5. Defendant denies infringement and asserts that the patent is invalid and unenforceable.

5. Plaintiff also charge infringement of Flick and Kudlaty patent No. 2,798,777, hereafter referred to as the "lug mount" patent, by defendant's manufacture and sale of its now obsolete models NE and RE and its current models R_2E and N_2E. At the trial, the charge was restricted to claims 1, 2 and 4 with respect to the NE and RE mounts and restricted to claims 2 and 4 with respect to defendant's current bar type of mounts, models

R_2E and N_2E. Defendant asserts that the lug mount patent is invalid and is unenforceable. Defendant denies infringement of any claims of the patent by its current R_2E and N_2E models. With respect to the obsolete models RE and NE, defendant has admitted infringement if the patent should be held valid.

6. The complaint also charges defendant with infringement of copyright registration A-338,557 by the publication of defendant's bulletin SR2-57B. Plaintiff asserts that pages 9 and 10 of defendant's bulletin are copies of pages 20 and 22 of plaintiff's bulletin JH-104N. Defendant denies infringement because of its independent writing and denies that plaintiff has any exclusive rights to assert against defendant.

THE SEAL PATENT AND DEFENDANT'S CYLINDERS R2, S2, T2 and N2.

7. Flick patent No. 2,842,284 is directed primarily to the connection between the head and the barrel or tube of the cylinder shown in Figure 4 of this patent (Tr. 357,358, PX 4, DX 201, Col. 2). As is seen in Figure 4, an outer cylindrical surface 32 on the cylinder tube or barrel pilots on the outer wall 30 of a groove in the head (sometimes referred to as an O. D. pilot) and the end of the barrel presses against a resilient seal ring in the groove. A shoulder on the barrel limits the squeeze on the ring. The patent specification stresses the fluid-tight engagement of the pilot surfaces (DX 201, Col. 2, ll. 45-47). The patent specification also stresses absolute concentricity of the tube and head through use of a special tool (DX 201, Col. 3, ll. 2-5 and 19-22). The patent specification also points out that the shoulder is in abutting, surface to surface contact with the head (Col. 2, ll. 22-28). Many types of resilient seal rings can be used in this connection

including Teflon rings. Vellumoid gaskets, O-rings and washers similar to hose washers (Tr. 94, 113, 344, 368, 369).

8. In all pressure cylinders, regardless of type, the pressure within the cylinder tends to expand the cylinder barrel or tube outwardly and tends to produce separation of the cylinder tube and heads (Flick Tr. 1564, Ellis Tr. 925, 965).

9. Pressure cylinders have sometimes used tie-rods between the heads at the ends of the cylinders to hold the barrel clamped therebetween and at other times have used tiebolts which are connected between the head and barrel at each end of the cylinder (Tr. 751, 774, 865).

10. Since in or about 1957, plaintiff has manufactured and sold cylinders wherein the cylinder tube piloted on the outer wall of a groove in the head, with a seal ring in the groove at the end of the barrel, and with a shoulder limiting the squeeze on the ring by its abutting contact with the head (Tr. 38, 67). Between 1957 and 1960, plaintiff used a tapered fit with zero clearance between the pilot surfaces of the head and barrel (Tr. 75, 131, 132, 124, 1225). From 1960 until the time of trial, the manufacturing tolerances of plaintiff's cylinders were changed to permit a clearance between the pilot surfaces of the head and barrel, even though a tapered fit was still used (Tr. 353). The cylinders made by plaintiff between 1957 and 1960 were essentially leak-proof with respect to leakage of fluid within the cylinder, even without the seal ring, due to the zero clearance and metal to metal contact at the pilot surfaces (Tr. 74, 75). The cylinders made by plaintiff between 1960 and the time of trial would not be leak-proof without the seal ring because of the increase in clearance (Flick Tr. 1223-1227).

11. Each of defendant's R2, S2, T2 and N2 cylinders has an outer wall of the cylinder tube piloting on the outer

wall of a groove in the cylinder heads (DX 71, 72, Tr. 1067-1070). Defendant's R2 cylinders have a shoulder on the barrel which abuts against the head and limits the squeeze on a seal ring between the end of the barrel (or tube) and the bottom of the groove in the head (Tr. 1068, 1069). Defendant's S2, T2 and N2 cylinders position the ring within a recess on the outer wall of the barrel. The compression on the seal ring in the S2, T2, and N2 cylinders is limited by abutment of the end of the cylinder barrel with the bottom of the groove in the head. None of defendant's cylinders uses a tapered fit between the pilot surfaces (Tr. 419-421, 1091, 1092). All of defendant's cylinders have a clearance between the pilot surfaces of the cylinder barrel and head (Tr. 1090, 1273, 1274). With such clearance, defendant's cylinders lack both "absolute concentricity" and fluid tight "sealing relation" contemplated by patent No. 2,842,284.

Defendant's specifications call for this clearance to be from .002 to .006 inches (Tr. 1080). One of defendant's R2 cylinders produced at trial by plaintiff showed a clearance between these pilot surfaces of .001 to .0015 inches (Tr. 148). Defendant uses an ordinary machine finish on its pilot surfaces (Tr. 1284). The finish on the pilot surfaces of defendant's cylinders is rougher than the finish on the pilot surfaces in plaintiff's cylinders (PX 71, 72, 73, Flick Tr. 1236, 1239, J. Harding 1085, 1086, Bosi 1274, 1284). Defendant's cylinders depend upon the seal ring to prevent fluid leakage (Tr. 1374). When defendant's cylinders are assembled without the seal ring, they will allow fluid leakage at fluid pressures up to at least 2700 p.s.i. (pounds per square inch). This is shown by defendant's tests of its cylinders (Tr. 1277-1283, 1354-1359). Plaintiff offered no evidence of tests of defendant's cylinders as to such leakage or as to results obtained with defendant's cylinders. Defendant commenced manufacture of the accused cylinders in 1957 (DX 74, 75, 76, Tr. 1074-1076).

12. Plaintiff's commercial cylinders above referred to are rated for operating pressures of 500 to 2500 p.s.i. for the model J and 3000 to 5000 p.s.i. for model H (PX 12). Defendant's cylinders above referred to are rated for operating pressures of 200 p.s.i. for air and 1000 p.s.i. hydraulic in the S2, T2 series (DX 71), 200 p.s.i. air and 500-2500 p.s.i. hydraulic in the R2 series and 2700-5000 p.s.i. hydraulic in the N2 series (DX 72). Both plaintiff's commercial J and H cylinders and defendant's commercial R2, S2, T2 and N2 cylinders use tie-rods extending between the heads of the cylinder to clamp the cylinder tube or barrel therebetween (PX 12, DX 71, 72). The cylinders are suitable for use with either air or hydraulic fluid as the operating medium (PX 12, DX 71, 72).

13. Prior to commercial manufacture of its model J cylinders, plaintiff had manufactured hydraulic cylinders in which the inner surface of the cylinder tube was piloted on an inner wall of a groove of the cylinder head (sometimes referred to as an I. D. pilot) and with an O-ring positioned in a recess in the inner wall of the groove and engaging the inner wall of the tube (PX 2, Tr. 36, 37). These cylinders used tie-rods extending between the heads of the cylinder so as to clamp the cylinder tube therebetween (Tr. 36). Plaintiff was manufacturing and selling these cylinders prior to the model J cylinders. Plaintiff asserts that the seals of the earlier cylinders were inadequate due to extrusion of the seal ring when the pressure within the barrel caused expansion of the barrel (Tr. 63). The pilot surfaces separated when the barrel expanded and the seal ring could be extruded through the space between them. Plaintiff asserts that because of this problem, it adopted the head and barrel construction of its model J cylinders above referred to. These prior cylinders of plaintiff were rated for operating pressure up to 2000 pounds per square inch (PX 2).

14. At least as early as 1947, plaintiff was manufacturing and offering for sale air cylinders in which a Vellumoid gasket was used as a sealing medium at the end of the cylinder barrel in a groove in the cylinder head. Tie-rods were used to clamp the cylinder barrel between the heads of the cylinder. These cylinders had no shoulder for limiting the squeeze on the seal ring (PX 1, Tr. 34-36).

15. At the time of filing the application for patent 2,842,284, tools for finishing the barrel surfaces and the cooperating pilot surfaces of the barrel and head so as to produce absolute concentricity and zero clearance were not known to the trade (Flick Tr. 377). Plaintiff uses a tracer tool to finish its cylinders in this way and has maintained its use of this tool as a trade secret (Tr. 374-376). Absolute concentricity is not obtained if there is clearance between the pilot surfaces (Flick Tr. 396). A "sealing engagement" of the pilot surfaces also depends upon the smoothness of finish of these surfaces. Small scratches can allow fluid leakage between these surfaces (Tr. 76).

16. Claims 1, 2 and 5 of patent 2,842,284 call for a cylinder construction in which the cylinder tube is received within a groove in the head, with a resilient sealing ring in the groove at the end of the tube, with the outer wall of the tube having a surface which pilots on an outer surface of the groove and with the two piloting surfaces "engaging in sealing relation" (Tr. 1349-1353, 1362-1364, 1369-1372). Claims 1, 2 and 5 also call for the piloting surface of the barrel to be on the reduced thickness section at the end of the barrel. In addition, claim 5 requires a shoulder on the tube for limiting the squeeze on the sealing ring (Tr. 177, 1426). The shoulder referred to is omitted in claims 1 and 2 (Tr. 1426). Claim 1 requires some tie-rods for connecting one head with one end of the barrel (Tr. 1423, 1424). Claim 2 differs from claim 1 in calling for a

head at each end of the barrel and some form of tie-rods for holding the heads and tube together (Tr. 1424, 1425). Claim 5 calls for any type of tie means for connecting the heads and cylinder tube in assembled relation. None of the defendant's R2, S2, T2 and N2 cylinders have pilot surfaces engaged in sealing relation as is called for in claims 1, 2 and 5 of plaintiff's patent 2,842,284 (Tr. 1353, 1354, 1362, 1364, 1365, 1369, 1370, 1372, 1373).

17. The "sealing" engagement of the piloting surfaces as set forth in claims 1, 2 and 5 of plaintiff's patent 2,842,284 is a critical element in the claims of this patent. The limitation as to such "sealing engagement" appears in all of the claims of the patent and was put into all of the claims by amendment before the Patent Examiner allowed the application (Tr. 1372, DX 201F). The term "sealing" as used in these claims means sealing against fluid leakage, and was used consistently in this sense by plaintiff in the specification of this patent (Col. 2, ll. 41-49, Col. 4, ll. 9-12) and in arguments presented to the Patent Office (DX 201F, p. 24). If the pilot surfaces are in "sealing relation" against fluid leakage, they also will prevent extrusion of the seal ring. If they are not sealed against fluid leakage, they will prevent extrusion only when the clearance or "crack" between the surfaces is small enough to prevent it (Tr. 1379, 1382). The patent states that any such crack or space is avoided (Col. 4, ll. 8-17) and that the metal to metal contact of the pilot surfaces seals against fluid leakage.

18. None of defendant's R2, S2, T2, N2 cylinders respond to the terms of or infringe claims 1, 2 and 5 of plaintiff's patent 2,842,284 because they omit use of pilot surfaces engaged in "sealing relation", a feature critical to plaintiff's patent. None of defendant's S2, T2 and N2 cylinders infringe claim 5 of plaintiff's patent for the addi-

tional reason that they do not have the shoulder recited in claim 5 of this patent (Tr. 1353-1355, 1360-1373).

19. The prior art developed by the Patent Examiner in his examination of the application for patent 2,842,284 included a patent to Becker 2,673,130 which had pilot surfaces formed on the inner wall of the cylinder tube and the inner wall of a groove in the head with a sealing ring in a recess on the inner wall of the groove. This patent was similar to plaintiff's hydraulic cylinder constructions prior to 1957 (PX 2) insofar as the cylinder tube and head and seal ring structure was concerned. The prior art considered by the Patent Examiner also included a patent to Keeler 1,200,118 on a hose coupling, U. S. patents Nos. 1,429,303 and 2,611,596 and British patent No. 207,855 of 1923 (DX 201, DX 201F). None of the prior art cited by the Examiner included a showing of a power cylinder in which the end of the cylinder tube comes up against a resilient seal ring in the bottom of a groove and squeezes it down to the head (Fischer Tr. 1436, 1437). Lacking this teaching, the prior art cited by the Examiner necessarily fails to disclose a cylinder in which a shoulder on the cylinder tube limits the compression of a resilient seal ring positioned in the groove in the head and at the end of the cylinder tube. In its arguments to the Patent Office, plaintiff stressed that the Becker patent was representative of knowledge of cylinder head and tube constructions before the application was filed (DX 201F, p. 22).

20. Plaintiff's own 1947 air cylinder construction (PX 1) was not called to the attention of the Examiner and apparently was not considered by the Examiner in his examination of plaintiff's patent No. 2,842,284. The structure of plaintiff's patent (as depicted in Figure 4 of the patent) differs from what is shown in this 1947 publication of plaintiff (PX 1) by reason of having a shoulder on the cylinder tube which limits the compression of the seal

ring (Flick Tr. 1254). This publication of plaintiff illustrates a cylinder in which the cylinder barrel pilots on the outer wall of a groove, with the end of the barrel pressing against a seal ring at the end of the groove. Pressure within the cylinder of this publication, tends to force the outer wall of the barrel outwardly into contact with the outer wall of the groove (Flick Tr. 337, 411).

21. The Patent Office, in its examination of plaintiff's patent No. 2,842,284, also did not cite and apparently did not consider certain HP cylinders which were manufactured and sold by Hanna Engineering Works between 1950 and 1960. These cylinders have a reduced end portion of the barrel received within a groove in the cylinder heads, a resilient sealing ring which is at the end of the barrel, with the outer surface of the barrel reduced portion piloting on the outer surface of the groove and with a shoulder on the barrel abutting the head of the cylinder and limiting the squeeze on the seal ring (Tr. 731-735, 1420-1428). The clearances between the piloting surfaces in these cylinders ranged from .001 to .005 depending upon the size of the cylinders (Tr. 740, 849, 850). Pressure within the cylinders tended to expand the barrels outwardly and cause engagement of the piloting surfaces (Tr. 739, 744, 842, 852). In some instances, these piloting surfaces could provide a sealing relation between one another (Tr. 855-861). In all of these HP cylinders, the arrangement was such as to prevent extrusion of the sealing ring, and Hanna experienced no problems in connection with extrusion of the sealing ring (Tr. 742, 881). The nature of the Hanna HP cylinders and their manufacture and sale is shown by testimony of several witnesses who were personally familiar with the cylinders and their manufacture and sale (Kuhnke Tr. 612, 620; Ellis Tr. 833, 845; Hallerstrom Tr. 990). It is also shown by a number of drawings and documents (DX 19, 24-35, 57-61; Kuhnke Tr. 653; Ellis Tr. 827) and a cylinder produced at

trial and which had been sold to Stetson China Company in 1950 (DX 36, Tr. 1004).

22. The patent application file of plaintiff's patent No. 2,842,284 also fails to disclose any consideration of a Hanna HP cylinder which was illustrated in Hanna catalog No. 233A (DX 48, DX 48A, DX 54) which was published and copyrighted in 1950 (DX 49; Kuhnke Tr. 691, 704, 705). This illustrates a cylinder similar to the Hanna HP cylinder above referred to in terms of the piloting surfaces, the position of the fluid energized seal ring and the shoulder which limits compression of the ring (Kuhnke Tr. 693-695, 702, 704; Ellis Tr. 885, 888; Fischer Tr. 1386, 1387, 1389, 1394).

23. Hanna Engineering Works in 1950 and 1951 also manufactured and sold cylinders designated as HPAC which are shown in Hanna Engineering Works' drawings Nos. 3-42266 and 3-137918 (DX 20, 21). These cylinders are similar to the HP cylinders above referred to except that the groove in the cylinder heads is rectangular rather than L-shaped (Kuhnke Tr. 635, 638; Fischer Tr. 1421, 1423, 1428). The head to tube seal arrangement of the HP cylinders never was changed from 1950 to as late as 1962 (Kuhnke Tr. 710). However, after the initial manufacture and sale of the HPAC cylinders, Hanna Engineering Works used the same HPAC designation for some cylinders with a different construction (DX 50; Kuhnke Tr. 705-709). These later HPAC cylinders are not asserted as prior art in this action.

24. The Hanna HP and original HPAC cylinders had cylinder tubes piloting on the outer wall of the head, grooves with resilient seal rings and with shoulders abutting the heads to limit squeeze of the ring in the same manner that is illustrated and described in plaintiff's patent 2,842,-284 (Tr. 732-735, 737-741, 1432, 1433). These Hanna HP

cylinders and original HPAC cylinders utilized tie-bolts to secure the heads and cylinder tube together but tie-bolts and tie-rods are equivalent insofar as plaintiff's patent No. 2,842,284 is concerned (DX 201F, p. 30; Tr. 741, 773, 866, 944).

25. The cylinder described and claimed in plaintiff's patent No. 2,842,284 accomplishes no results different from what is accomplished in the Hanna HP and original HPAC cylinders. If the term "sealing relation" in plaintiff's claims is interpreted so as not to require sealing against fluid leakage, but only insuring against extrusion of the sealing ring, then the Hanna HP and original HPAC cylinders have such a "sealing relation" and all of the elements of claims 1, 2 and 5 of plaintiff's patent 2,842,284 (Tr. 742, 839, 840, 881, 1432, 1433). If the term "sealing relation" is interpreted to mean sealing against fluid leakage, then the claims of plaintiff's patent are still met by the Hanna HP and original HPAC constructions for the reasons that the finishes on the pilot surfaces and the small clearances on the pilot surfaces were such that sealing could be obtained with expansion of the cylinder barrel under pressure (Tr. 861, 1434, 1435). The Hanna HP cylinder is more likely than defendant's cylinders to have fluid tight sealing relation because the clearances are smaller and the finishes are finer in the HP cylinders (Tr. 1422).

26. The Patent Office record of plaintiff's application for patent No. 2,842,284, also fails to disclose any consideration of the publication of certain HPM cylinders illustrated in catalog No. 701 of the Hydraulic Press Manufacturing Company (DX 117, 118, 211; DX 207, No. 18). This publication illustrates a cylinder in which tie-rods are used to clamp the cylinder tube between the heads at the ends of the cylinder, a seal ring, pilot surfaces and shoulder in the same relation as plaintiff's patent (Tr. 1430-1432).

This publication differs from plaintiff's 1947 publication of its air cylinders (PX 1) to the same extent that the showing in Figure 4 of plaintiff's patent differs from the showing in plaintiff's 1947 publication, namely, that both Figure 4 and the HPM bulletin illustrate a shoulder on the cylinder tube which limits the squeeze on the sealing ring (Flick Tr. 1253, 1254).

Claims 1, 2 and 5 of plaintiff's patent read in terms and are met by the showing in this HPM publication, especially if the term "sealing relation" is interpreted as meaning only prevention of extrusion of the sealing ring rather than a fluid-tight seal (Fischer Tr. 1431, 1440, 1441). If the term "sealing relation" in plaintiff's claims is interpreted as meaning a fluid-tight seal between the pilot surfaces, then this publication still meets the substance of the claims because the pilot surfaces are illustrated as being in contact with one another (Flick Tr. 1252) and making them fluid tight is only a matter of degree as to the finish on the surfaces well within the skill of the art (Tr. 861-863, 1441). This HPM publication was published in November of 1953, which is well before the earliest date of invention asserted by plaintiff in this case, namely, the summer of 1954 (Kudlaty Tr. 1205).

27. Other prior art not considered by the Patent Office discloses the various elements of the cylinder of Patent No. 2,842,284. The idea of providing pilot surfaces on the outer diameter of a cylinder tube and a recess in the cylinder head, in addition to the Hanna HP and the original HPAC cylinders, was old in Dawson patent No. 221,794 of 1879 (DX 207, No. 6), Krummel patent No. 2,690,765 (DX 207, No. 8) and British patent No. 393,917 (DX 207, No. 9) (Tr. 1437). The use of a resilient seal ring in the groove of a head of a cylinder with the cylinder tube pressing against the ring was old in the Dawson and Krummel patents and in British patent No. 393,917 (Tr.

pp. 1438, 1439). The provision of some means to limit the squeeze of the resilient seal ring was old prior to the alleged invention of patent No. 2,842,284, in British patent No. 393,917 and Belgian patent No. 524,091 (DX 207, No. 10), the prior patent to Dawson showing a tapered fit for this purpose, and the Krummel patent showing a second cylinder (Tr. 1429, 1439, 1440). It was also old to prevent extrusion of a seal ring in an article about O-rings published in May, 1947 in Machine Design (DX 207, No. 11). This was published more than a year before the filing date of patent No. 2,842,284 and discloses the desirability of limiting the compression on a fluid energized seal ring and so arranging parts that any "crack" is small enough as to prevent the ring from entering (Tr. 1376-1382, 1440, 1441). Viewed in the light of this prior art, the cylinder construction of patent No. 2,842,284 possesses no differences which are unobvious to a person having ordinary skill in the art at the time the patentee produced such construction.

28. By omitting specific description of the "special tool" and the finishes on the pilot surfaces, while reserving disclosure thereof as a trade secret, the patentee Flick in patent No. 2,842,284 did not set forth the best mode contemplated by him of carrying out the alleged invention.

29. The plaintiff stated to the Patent Office (DX 201F, page 22) in his application for patent 2,842,284 that the Becker patent was the only "type of connection" used in pneumatic and hydraulic equipment, without making reference to its own 1947 air cylinder constructions (PX 1) and its own prior constructions using an O.D. pilot (Flick Tr. p. 407). Thus the plaintiff failed to fully represent to the Patent Office the true status of the prior art known to it and in the public domain.

30. Plaintiff contends that the cylinder construction of Flick patent 2,842,284 solved a "problem which had vexed and confounded the cylinder manufacturers." (Plaintiff's

Brief, p. 28). The evidence does not support such a contention. Hanna experienced no difficulty with the seal arrangement of its HP cylinders (Tr. 742, 839, 840, 881). The only evidence of a problem offered by plaintiff related to its own cylinders and this was unconvincing especially in view of the statement of Mr. Kudlaty, plaintiff's former employee, that it was "nothing serious" (Tr. 1208). If plaintiff did have any problem with its 1947 hydraulic cylinder construction (PX 2), that has been overcome by plaintiff's use of the Hanna HP principles of the O.D. pilot, resilient seal ring at the end of the tube and the shoulder limiting the compression of the ring.

LUG MOUNT PATENT NO. 2,798,777.

31. Patent No. 2,798,777 issued July 9, 1957 as a result of an application for patent filed December 16, 1954, by plaintiff's president, Francis S. Flick, and chief design engineer, Walter J. Kudlaty, for an invention entitled "Cylinder Mounting", the patent now being owned by the plaintiff together with all rights thereunder including the right to recover for past infringement. The cylinder mount disclosed in Patent No. 2,798,777 is for mounting a cylinder against a machine tool base such that the cylinder head will be precisely positioned solidly against that base resulting in the stroke of the piston and cylinder device being properly directed, friction on the operating piston rod being minimized, and maximum cylinder power being maintained on each stroke.

32. The mount is a lug threaded directly upon the tie rod of the cylinder with a bolt hole passing through the lug in line with the tie rod. The sides of the lug are spaced inwardly of the periphery of the cylinder head insuring that the head, and not the lug, bears solidly against the mounting surface each time the cylinder is mounted.

33. The lug mount of this invention maintains the cylin-

der device rigidly in desired position; it provides reinforcement against bending of the heads of the cylinder under extreme internal pressures; and the placement of the lugs against the heads of the cylinder avoids beam action in the cylinder. The lug is also completely interchangeable with other mountings since it is threaded directly on the tie rods.

34. Defendant has admitted that it manufactured and sold mounts designated models R-E and N-E and that such mounts infringe claims 1, 2 and 4 of the patent in suit.

35. Defendant's accused models R2-E and N2-E are exemplified by Physical Exhibit P-34 and are charged to infringe claims 2 and 4 of the lug mount patent in suit. The accused Physical Exhibit P-34 of defendant comprises a bar with two lug parts, one at either end, connected by an intermediate piece of metal. The two lug parts on the one-piece bar are substantially identical in structure with the lugs of the accused models R-E and N-E which defendant admits are an infringement except for the intermediate piece of metal.

36. The two lug parts of the accused one-piece bar (Exhibit P-34) perform substantially the same function as the lugs specified in the patent in suit, and accomplish substantially the same result as the lug specified in claims 2 and 4 of the patent in suit. The one-piece bar mount of defendant (Physical Exhibit P-34) is an equivalent structure to that specified in claims 2 and 4, and infringes claims 2 and 4 of the patent in suit.

37. Defendant's defense is an alleged prior use by Entwhistle Manufacturing Company of a bar mount extending across the end of a cylinder as exemplified by a 1950 catalog illustration (Exhibit D-62).

38. The evidence produced by defendant fails to show that the alleged Entwhistle prior use embodies the inven-

tion claimed in the patent in suit. There is no evidence in the catalog or in the deposition testimony of Entwhistle employees that the bars were ever mounted inwardly of the periphery of the head to insure that the head was held precisely against a mounting surface.

39. Defendant also asserted that the patented structure does not disclose invention over the prior angle iron mount of plaintiff, model A71 (Exhibit P-1). The plaintiff's angle iron mount was deficient in meeting the advantages of the patented lug mount because the angle iron mount did not hold the head of the cylinder firmly against the mounting surface when under load.

40. The prior patented art cited by the defendant was substantially the same as and otherwise only cumulative over the art cited by the Patent Office during prosecution of the patent in suit. Such cited prior art does not overcome the presumption of validity which attaches to the claims of the issued patent.

41. The main reliance by defendant is upon Craig Patent 1,820,269, which shows a simple angle iron mount having the same deficiencies as the prior angle iron mount of plaintiff which the patented lug mount replaced. The prior art patent of Christiansen 2,410,808 is in this same category.

42. Defendant also referred to certain prior patented art on chair leg bracing structures, including Vanselow 1,017,712, McArthur 2,035,488 and McArthur 2,035,489. None of these patents contain any teaching of the positioning of a lug mount in relation to a piston and cylinder device of the tie rod type such that the lug mount can serve to hold the tie rods in place and yet be positioned within the periphery of the cylinder head so that the cylinder head can be precisely positioned in intimate contact against the mounting surface and will not raise off the surface when under operative loads.

COPYRIGHT REGISTRATION No. A 338,557.

43. Copyright registration No. A 338-557 issued in 1958 for plaintiff's bulletin JH-104N (PX 12), which, according to the registration and the evidence, was first published in April 14, 1958.

44. Plaintiff asserts only that defendant, on pages 9 and 10 of defendant's bulletin SR2-57B (DX 95, PX 43), has copied pages 20 and 22 respectively of plaintiff's bulletin JH-104N.

45. Page 20 of plaintiff's bulletin is entitled, "Aids for Preventing Excessive Bearing Wear and Column Failures" and contains mathematic information for determining what length of piston rod may be used for particular values of thrust and piston rod diameters. Such lengths are set forth in chart form with the thrust and diameters. Also included on the page are directions for using the chart and diagrams showing different mounting conditions and ratios for such conditions to be used in connection with the chart. The ratios used are Euler's ratios usable with Euler's mathematical formulas on column strength and for use with different mounting conditions for columns or rods (Flick, Tr. 495, 496). Instructions are given for the use of stop tubes. The diagrams are arranged in three groups on the left side of the page and the chart is located at the lower righthand side of the page with wide vertical red and white strips alternatingly covering adjacent columns.

46. Page 9 of defendant's bulletin entitled, "How To Determine If Oversized Rod Is Needed" relates to mathematical subject matter similar to that of page 20 of plaintiff's bulletin. It includes a chart with values of rod lengths corresponding to different values of axial thrust and piston rod diameters. Also included on the page in only the upper portion of the left column in a red out-

lined box is a single group of diagrams showing different cylinder mountings and Euler's ratios for the different mounting conditions. Elsewhere on the page are instructions for the use of the chart and diagrams, including instructions for the use of stop tubes. The arrangement and content of this page 9 are different from page 20 of plaintiff's bulletin (Tr. 1188-1193). Different nomenclature and different explanations of the use of the mathematical data are set forth on page 9 of defendant's bulletin and page 20 of plaintiff's bulletin, although the pages do have similarity of mathematical subject matter as to the information therein contained. Similarity of this subject matter also is found in publications of competitors of the parties prior to 1958 (DX 51, 52A). In a 1941 publication of Hanna (DX 51), the values of thrust went as high as 400,000 pounds, the highest value in defendant's charge.

47. In 1947 and 1948, plaintiff's predecessor, Miller Motor Company, published bulletins (DX 2 and 3) containing mathematical material identical in many respects with that of page 20 of plaintiff's bulletin JH-104N. The prior publications of Miller Motor Company thus included diagrams of cylinders with different mounting conditions and Euler's ratios corresponding to such conditions (Tr. 256-259, 495, 496), a chart showing piston rod lengths for different values of axial thrust and piston rod diameters, and instructions for using the diagrams and chart. The piston rod diameter values in the 1947 and 1948 publications and the axial thrust values up through 160,000 pounds and the values of piston rod length corresponding to these various values of axial thrust and piston rod diameters are, except for one obviously erroneous value at 100 pounds thrust and five-eighths inches diameter, identical with the values appearing on page 20 of plaintiff's bulletin. The number of values up to 160,000 pounds is 207 of the total number of 219 values appearing in plaintiff's 1958

chart. The instructions of the prior 1947 and 1948 publications also refer to the use of stop tubes if the value of piston rod length as obtained from the chart exceeds 40.

48. The 1947 and 1948 publications of Miller Motor Company bear a notice of copyright 1947 and 1948 respectively of that company. A registration of the 1948 publication was obtained in 1960 in the name of William J. Reedy and Francis S. Flick, doing business as Miller Motor Company (DX 1), when, according to the testimony of plaintiff's president, Francis S. Flick, Miller Motor Company was no longer in existence (Tr. 322-324). However, the evidence establishes that plaintiff became and is the owner of all assets of William J. Reedy and Francis S. Flick, doing business as Miller Motor Company. Plaintiff has asserted no rights in either of the 1947 and 1948 publications. The 1960 registration is not asserted in this suit.

49. Material similar to that of page 20 of plaintiff's bulletin JH-104N was published on pages 68, 69, 130 and 132 of the October 1953 issue of the magazine, "Applied Hydraulics" (DX 85, PX 42). The article was published in the name of Walter Kudlaty with the permission of plaintiff, but contains no notice of any copyright of plaintiff or Kudlaty in the subject matter.

50. The "Applied Hydraulics" article is similar to the 1947 and 1948 publications of Miller Motor Company in the use of a chart showing different values of piston rod length for given values of axial thrust and piston rod diameter, diagrams showing different cylinder mounting conditions and ratios therefor, and directions for the use of the chart and diagrams including a discussion of stop tubes where the piston rod length exceeds 40 inches (Flick, Tr. 260, 262). The piston rod diameters on the chart in the 1953 Applied Hydraulics article are identical with those

of the 1947 and 1948 publications and of plaintiff's bulletin JH-104N and the values of axial thrust are also the same up to a maximum of 16,000 pounds. With the exception of one obvious error (Tr. 262), the rod length values also are identical, there being 135 rod length values on the chart in the article, which values are more than one-half of the total number of 219 values appearing in plaintiff's 1958 bulletin.

51. In 1957, which was prior to the publication of defendant's bulletin SR2-57B and prior to the publication of plaintiff's bulletin JH-104N (Tr. 1110-1113, DX 84), defendant published form S120A (DX 81) which contains mathematical material later repeated on page 9 of defendant's bulletin SR2-57B (Tr. 1125, 1126). This material includes diagrams of cylinders with different mounting conditions, the different Euler's ratios for such conditions, and a chart showing values of piston rod length for different values of piston rod diameters and axial thrust. The values of rod diameter, length and thrust up through a maximum thrust of 160,000 pounds, with the exception of one value, which appear in defendant's 1958 bulletin SR2-57B, also appear in defendant's 1957 form S120A. The directions for that form also included use of stop tubes where the value of piston rod length exceeds 40 inches. The instructions for the use of the charts and diagrams on page 9 of defendant's 1958 bulletin SR2-57B are similar to, but are somewhat more detailed than the directions appearing on defendant's prior 1957 form S120A (Tr. 1139).

52. The values of rod length for thrust values up to 160,000 pounds appearing on page 9 of the bulletin SR2-57B and on defendant's prior 1957 form S120A were obtained by Mr. John Harding, Vice President of defendant, through original calculations made in 1956 without any access to plaintiff's bulletin JH-104N which was not pub-

lished until 1958 (Tr. 1115-1124, DX 86-1 to 86-24, 87-1, 87-2). The diagrams and instructions on page 9 of defendant's bulletin SR2-57B are similar to and constitute amplification of such material appearing on defendant's form S120A and are the result of independent and original creative effort of personnel of defendant. The values of rod length for thrust values above 160,000 pounds appearing in the chart on page 9 of defendant's bulletin SR2-57B were obtained by personnel of defendant through independent effort (Tr. 1127).

53. Page 22 of plaintiff's bulletin JH-104N relates to starting and stopping objects and is entitled, "Table for Quickly and Easily Determining Distances and Forces Required to Start and Stop Cylinder Piston Travel when Loads and Speeds are Known." On the upper portion of the page on the left side is a table of values for a so-called force factor for different values of acceleration and deceleration distances and velocities. Beneath the chart are listed symbols for different factors and formulae. The remainder of the page gives directions and examples for the use of the chart using the formulae. Wide vertical alternating red and white stripes cover adjacent vertical columns in the table.

54. Page 10 of defendant's 1958 bulletin SR2-57B, which plaintiff asserts was copied from page 22 of plaintiff's bulletin, is entitled, "Information On Forces Required For Acceleration and Deceleration" and includes mathematical material of the same type as that of plaintiff. In addition to a chart with different values of a force factor for different given distances and velocities, there are formulae and directions for using the chart as well as examples. Defendant's page 10 uses different nomenclature, a different arrangement, and a different presentation of the same type of mathematical subject matter appearing on page 22 of plaintiff's bulletin (Flick, Tr. 522, 1188-1194).

55. Prior to the publication of plaintiff's bulletin JH-104N, plaintiff distributed to its salesmen an information sheet, "File 1182" (DX 105, PX 52), dated 1951 and containing information similar to that appearing on page 22 of plaintiff's bulletin JH-104N (Tr. 294, 295). "File 1182" thus included a force factor chart with all of the velocities appearing on the table on page 22 of bulletin JH-104N and, of nine values of acceleration and deceleration distance, seven of those on form 1182 are identical with those appearing on page 22 of bulletin JH-104N. File 1182 also included force factor formulae. File 1182 had no notice of copyright.

56. File 1182 is an engineering aid which is similar to other aids of plaintiff sent out to plaintiff's salesmen and used by them with customers of plaintiff (Tr. 294, 295). Copies of File 1182 also were given by plaintiff's salesmen to customers (Tr. 294, 295, 518). Although plaintiff's president testified at the trial that salesmen were cautioned to hold File 1182 for his personal use, plaintiff introduced no documents or other evidence to support this testimony and such testimony is contrary to Mr. Flick's prior testimony on depositions (DX 119, p. 162) that no instructions were given to the salesmen not to distribute File 1182 to the public generally. There was also evidence of distribution of copies of File 1182 by plaintiff to members of the public at a trade show in 1955 (DX 114, pp. 5, 6). This publication and the publications to customers by salesmen was a general publication without restriction as to persons or purpose.

57. All of the values of K force factor appearing in the chart on page 10 of defendant's bulletin SR2-57B are the result of independent calculations of defendant, supervised by Mr. Bosi, chief engineer of defendant (Tr. 1260-1271). The mathematical formulae for obtaining these values were

derived by Mr. Bosi using an engineering handbook owned by him since 1945 (Tr. 1263). The instructions appearing on page 10 of defendant's bulletin SR2-57B for the use of the associated chart are the result of independent creative writing of Mr. Bosi and Mr. John Harding (Tr. 1107, 1260, 1261).

58. Any similarities between the material on pages 9 and 10 of defendant's bulletin SR2-57B and pages 20 and 22 of plaintiff's bulletin JH-104N are due to the fact that the parties are dealing with the same mathematical subject matter and the same general procedures must be followed in using the material.

59. Pages 20 and 22 of plaintiff's 1958 bulletin JH-104N are adaptations, enlargements or revised versions of the prior 1947 and 1948 publications of Miller Motor Company, the 1953 "Applied Hydraulics" Article and the 1951 File 1182 (Tr. 259, 261, 297).

60. Plaintiff's copyright Registration A 338,557 was obtained as a regulation of a completely new work. Plaintiff did not inform the Copyright Office and has not informed the public that pages 20 and 22 of its bulletin incorporate prior publications identically and are, in fact, revised versions of the prior publications (Flick, Tr. 497, 498).

61. No issue of unfair competition has been pleaded in this action, no discovery has been taken as to such an issue, and no proofs have been offered at the trial establishing the "likelihood of confusion" in the trade or showing any other unfair act of defendant.

62. The equities on all issues are with the plaintiff in Count III and with the defendants in Counts I and II.

CONCLUSIONS OF LAW.

1. This Court has jurisdiction of the parties and of the subject matter hereof.

2. Plaintiff is the owner of Flick patent No. 2,842,284, of which claims 1, 2 and 5 are in issue in this suit.

3. Plaintiff's patent No. 2,842,284 must be strictly construed, since it is directed to subject matter in a crowded art.

4. The claims of plaintiff's patent No. 2,842,284 must be construed as limited to pilot surfaces on a cylinder tube and on an outer wall in a groove in a cylinder head which in and of themselves provide a fluid tight "sealing" relation.

5. Claims 1, 2 and 5 of plaintiff's patent No. 2,842,284 have not been and are not infringed by defendant's cylinder constructions designated R2, S2, T2 and N2.

6. Claims 1, 2 and 5 of plaintiff's patent No. 2,842,284 are anticipated by, and recite nothing more than elements and combinations old in various prior art uses, publications and patents not cited by and apparently not considered by the patent examiner in his examination of the application for patent No. 2,842,284. This prior art includes 1950-1953 HP and HPAC cylinders of Hanna Engineering Works, an H. P. M. publication of 1953, Dawson patent No. 221,794 of November 18, 1879, Krummel patent No. 2,690,765 and British patent No. 393,917. Cylinder structures described and claimed in patent No. 2,842,284 obtain no results different from the results obtained by the use of similar elements in these patents and prior cylinder structures.

7. Plaintiff's patent No. 2,842,248 is invalid and unenforceable because the specification is insufficient to inform a person with ordinary skill in the power cylinder art as

to how "absolute concentricity" together with a sealing relation between pilot surfaces on the tube and barrel can be obtained.

8. Plaintiff's patent No. 2,842,284 is unenforceable by reason of plaintiff's inequitable conduct in attempting to maintain its particular methods and nature of its "special tool" obtaining "absolute concentricity" and a sealing relation between pilot surfaces on the tube and barrel as a trade secret, while at the same time avoiding complete disclosure of these things in its patent No. 2,842,284, and while obtaining a patent monopoly thereon.

9. Plaintiff's patent No. 2,842, 284 is invalid, because in withholding specific information on the "special tool" used to finish the pilot surfaces, plaintiff has not complied with the statute requiring a patent applicant to set forth the best mode of practicing the invention contemplated by him (35 U. S. C. 112).

10. Plaintiff's patent No. 2,842,284 is unenforceable by reason of plaintiff's inequitable conduct in misrepresenting the status of prior art, known to plaintiff, to the Patent Office.

11. Defendant is entitled to a judgment declaring claims 1, 2 and 5 of Patent No. 2,842,284 invalid and not infringed.

12. Claims 1, 2 and 4 of the Flick et al. Patent No. 2,798,777 in suit are good and valid in law.

13. Claims 1, 2 and 4 of the Flick et al. Patent No. 2,798,777 in suit have been infringed by the defendant by its manufacture and sale of its model R-E and N-E devices exemplified by exhibits P-20a and P-20b since the issuance of Patent No. 2,798,777.

14. Claims 2 and 4 of Patent No. 2,798,777 have been infringed by defendant by its manufacture and sale of cylinder mount bars threaded on tie rods, designated model

R2-E and N2-E and exemplified in exhibit P-34, since the issuance of the patent in suit.

15. The patent in suit was regularly issued by the United States Patent Office. In assailing the patent, defendant has a heavy burden of proof which it has not sustained.

16. The alleged prior use by Entwhistle and by plaintiff's own prior structure has not been proved by clear and convincing evidence to contain the invention claimed in Patent No. 2,798,777, and therefore is not anticipatory.

17. The prior patented art cited by defendant does not anticipate the claims of Patent No. 2,798,777 at issue. The prior art is either the same or merely cumulative of the art cited by the Patent Office during the prosecution of the patent in suit, over which art the Patent Office allowed the claims of the patent in suit. Since all of the material prior art structures relied upon by the defendant were considered by the Patent Office, there is an added presumption of validity attaching to Patent No. 2,798,777.

18. Plaintiff is entitled to a judgment that Patent No. 2,798,777 is valid and infringed, that plaintiff is entitled to an injunction, that the defendant pay to plaintiff the amount of damages arising from the patent infringement as determined by an accounting.

19. Plaintiff is the owner of copyright registration A 338,557.

20. There is no infringement of this copyright registration because it has not been shown that defendant's publication and distribution of its free sales bulletin will in any way diminish or detract from the value of the plaintiff's bulletin, which is distributed without charge of the trade, and for which registration A 338,557 was issued.

21. There is no infringement of copyright registration

A 338,557 because of defendant's independent efforts resulting in the calculations and written material in its bulletin SR2-57B.

22. There is no infringement of plaintiff's copyright registration A 338,557 because no substantial copying of plaintiff's 1958 bulletin, for which the registration issued, has been shown.

23. Defendant has the right to expand and elaborate in its own form of expression upon its own prior 1957 bulletin on the same subject matter.

24. Copyright registration A 338,557 is invalid and unenforceable in so far as it purports to cover material in pages 20 and 22 of plaintiff's bulletin JH-104N and published prior to 1958 by plaintiff and others. Pages 20 and 22 of the bulletin for which registration A 338,557 issued are revised versions of earlier publications. Defendant has not substantially copied the narrow differences of the plaintiff's 1958 bulletin or other prior works.

25. Page 22 of bulletin JH-104-N is in the public domain in view of the plaintiff's publication of the same material without copyright notice prior to 1958.

26. The substance of page 20 of bulletin JH-104-N is in the public domain in view of the publication of the substance thereof in "Applied Hydraulics" in 1953 without notice of copyright by plaintiff.

27. Registration A 338,557 cannot be construed as dominating the ideas or mathematical relations expressed therein.

28. A case of unfair competition has not been pleaded in this action, no discovery has been taken on such an issue, and plaintiff's proofs do not show a case of unfair competition.

29. Defendant is entitled to a judgment declaring that

copyright registration A 338,557 is invalid in so far as it purports to cover material in pages 20 and 22 of plaintiff's Bulletin JH-104N and published prior to 1958 by plaintiff and others; plaintiff's copyright is unenforceable with respect to material published prior to 1958; and plaintiff's copyright is not infringed by defendant's bulletin in suit.

30. The complaint is dismissed as to Counts I and II thereof. No costs or attorneys' fees are awarded to either party.

Enter:

J. S. Perry,
Judge.

Dated: Chicago, Illinois
May 14, 1964.

UNITED STATES DISTRICT COURT
* * (Caption—59-C-25) * *

DECREE.

This cause having come on for trial, and the court having heard the evidence and having considered the post-trial briefs of counsel, and being fully advised in the premises, and this day having entered Findings of Fact and Conclusions of Law herein,

In accordance with said findings and conclusions, it is Ordered, Adjudged and Decreed:

1. That claims 1, 2 and 5 of U. S. Patent No. 2,842,284 are invalid and are not infringed by cylinders made and sold by Hydro-Line Manufacturing Company and identified as Models N2, R2, S2 and T2.

2. That Copyright Certificate of Registration No. A 338,557 owned by plaintiff is invalid and unenforceable insofar as it purports to cover material in pages 20 and

22 of plaintiff's Bulletin JH-104N and published prior to 1958 by plaintiff and others; that plaintiff's copyright is unenforceable with respect to material published prior to 1958; and that plaintiff's copyright is not infringed by defendant's bulletin in suit.

3. That plaintiff's charge of unfair trade practices on the part of the defendant is without merit and is dismissed.

4. That the complaint is dismissed as to Counts I and II thereof which relate to the copyright registration and to Patent No. 2,842,284, respectively.

5. That claims 1, 2 and 4 of U. S. Patent No. 2,798,777 are valid and have been infringed by devices made by Hydro-Line Manufacturing Company and identified as its Models R-E and N-E foot mounts; claims 2 and 4 have been infringed by devices identified as Models R2-E and N2-E.

6. That Hydro-Line Manufacturing Company is enjoined from infringing said U. S. Letters Patent No. 2,798,-777 as of the date of this Decree.

7. That Hydro-Line Manufacturing Company pay to Flick-Reedy Corporation damages for infringement of Patent No. 2,798,777 as shall be determined by an accounting.

8. That each of the parties hereto shall bear its own costs incurred herein as well as its own attorneys' fees.

9. That this cause be referred to David J. Shipman who is hereby appointed Special Master of this court for the purpose of ascertaining, taking, stating and reporting to the court an account of all gains, profits and advantages derived by the defendant from its aforesaid infringement of plaintiff's patent No. 2,798,777. Said Special Master is hereby directed, however, to defer any and all action until such time as this decree shall become final and unappealable. In the event of an appeal, he is directed to defer all action until the final disposition of such appeal.

10. That the court retain jurisdiction over this cause solely for the purpose of entering such orders from time to time as may be necessary to enforce compliance with the terms of this decree which is final and appealable.

Enter:

J. S. Perry,
Judge.

Dated: Chicago, Illinois
May 14, 1964.

UNITED STATES DISTRICT COURT,

Northern District of Illinois,

Western Division.

Name of Presiding Judge, Honorable Joseph Sam Perry.

Cause No. 59 C 25. Date July 1, 1964.

Title of Cause—

Flick-Reedy Corporation vs. Hydro-Line Manufacturing Company.

Brief Statement of Motion—

On May 14, 1964, Findings of Fact, Conclusions of Law and a Decree were entered in the above cause. Thereafter defendant filed its motion, under Rule 59(e) to amend said Conclusions of Law and Decree.

Having examined and considered the defendant's said motion, together with briefs submitted by counsel.

It is Ordered—

(1) That the Conclusion of Law heretofore entered herein be amended and modified by striking therefrom paragraph numbered 30 and inserting, in lieu thereof, the following:

"30. The complaint is dismissed as to Counts I

and II thereof, and the third counterclaim of defendant is dismissed. Defendant is entitled to a judgment awarding costs relating only to the copyright in suit. No other costs and no attorneys' fees are awarded to either party."

(2) That the decree heretofore entered herein be and it is hereby amended and modified—

(a) by adding to paragraph 4 thereof the following language: "The third counterclaim relating to Patent No. 2,798,777 also is dismissed."

(b) by striking paragraph 8 and inserting in lieu thereof the following:

"8. That each of the parties hereto shall bear its own attorneys' fees and each of the parties hereto shall bear its own costs incurred herein except that defendant is awarded its costs incurred in connection with the copyright in suit.

J. S. Perry.

DECISION OF THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUT (Sept. 14, 1965).

IN THE UNITED STATES COURT OF APPEALS

For the Seventh Circuit.

Nos. 14804, 14805

SEPTEMBER TERM, 1964 APRIL SESSION, 1965

No. 14804
FLICK-REEDY CORPORATION,
Plaintiff-Appellant,
vs.
HYDRO-LINE MANUFACTURING COMPANY,
Defendant-Appellee,
No. 14805
FLICK-REEDY CORPORATION,
Plaintiff-Appellee,
vs.
HYDRO-LINE MANUFACTURING COMPANY,
Defendant-Appellant.

Appeal from the United States District Court for the Northern District of Illinois, Western Division.

September 14, 1965

Before CASTLE and KILEY, *Circuit Judges,* and MERCER, *District Judge.*

KILEY, *Circuit Judge.* Plaintiff, Flick-Reedy Corporation, sued Hydro-Line Manufacturing Company for infringement of United States Patents No. 2,798,777 and No. 2,842,284, and its registered copyright A-338557. The

district court, in findings of fact and conclusions of law reported at 241 F. Supp. 127 (N. D. Ill. 1964), decided in favor of Flick-Reedy with respect to Patent No. 2,798,777 and in favor of Hydro-Line with respect to Patent No. 2,842,284 and the copyright. Flick-Reedy has appealed in case No. 14804 and Hydro-Line in case No. 14805.

Hydro-Line and Flick-Reedy are competitors in the manufacture and sale of precision, machine tool grade, air and hydraulic piston and cylinder devices, known in the trade as cylinders. The patents in suit, owned by Flick-Reedy, were a sealing arrangement to improve the pressure capacity of hydraulic cylinders by virtue of preventing the escape of fluid from the cylinders (No. 2,798,777), and a device for mounting cylinders rigidly to a base in order to maintain accurate thrust of the piston in the cylinder (No. 2,842,284). The copyright covered a trade booklet.

THE COPYRIGHT.

The issue involved pages 20 and 22 of the 32-page booklet "Hydraulic Cylinders," copyrighted in 1958 and first published on April 14, 1958, which Flick-Reedy charges was infringed by pages 9 and 10 of a similar publication of Hydro-Line. These booklets were distributed without cost to users of cylinders, providing useful information while at the same time keeping the manufacturer's name and products before the user. The pages in question contain mathematical data and formulae with explanations for their use in determining proper sizes of piston rods under various conditions and in determining acceleration and deceleration distances.

The district court concluded that the copyright was invalid and unenforceable because the copyrighted material was a revision of uncopyrighted material published previously by plaintiff and thus in the public domain; that

Hydro-Line had not infringed the copyright because it had not substantially copied the Flick-Reedy material, but had arrived at its own version independently; and that there was no infringement "because it has not been shown that defendant's publication and distribution of its free sales bulletin will in any way diminish or detract from the sale of the plaintiff's bulletin, which is distributed without charge to the trade. . . ." We think the district court erred in applying the law and in certain of the findings of fact on which its conclusions and the decree of invalidity rested.

In the first place, "abridgments, adaptations, arrangements . . . or works republished with new matter . . ." are subject to copyright by the very terms of the Act, 17 U. S. C. § 7; and the court erred in precluding infringement for the reason that some of the material was already in the public domain. The arrangement, expression and manner of presentation of the copyrighted pages, however, was not in the public domain. Secondly, the question is not whether the computations in the Hydro-Line charts were independently arrived at, but whether the Flick-Reedy expression and presentation of the computations, formulae and explanations were copied by Hydro-Line. On this question we think the district court clearly erred.

In *Sampson & Murdock Co.* v. *Seaver-Radford Co.*, 140 Fed. 539 (1st Cir. 1905), footnoted by the Supreme Court at page 218 in *Mazer* v. *Stein*, 347 U. S. 201 (1954), several general rules of copyright law are set forth, at pages 542-43, which are pertinent here. Applying the rules stated there to the issue before us, we see that Hydro-Line had the same purpose in compiling and publishing its material as Flick-Reedy had, and that it did not merely use the latter's work as a starting point for further development of the ideas expressed. It had no right to avail itself of Flick-Reedy's labor, in rearranging and reexpress-

ing the material, to save itself work or trouble, nor to use its bulletin to interfere seriously with Flick-Reedy's gainful use of its bulletin for prestige and trade in the cylinder market. The question of infringement is whether Hydro-Line's arrangement and expression is its own, so as to make its use fair to Flick-Reedy.[1]

The district court did not include in its findings the testimony of Hydro-Line's vice-president that he had a copy of Flick-Reedy's bulletin before him in preparing the accused pages and that this copy was sent along with other "layout material" to Hydro-Line's advertising agency, which did the final preparation of the accused bulletin. The witness testified that this was done to avoid duplication.

We have compared the corresponding pages of the publications: The lines blocking out the charts and the illustrations are red in the accused pages, and in Flick-Reedy's they are black, with red shading in alternate columns. There are differences in the wording of titles of parts of pages or in the location of titles, *e.g.*, on Flick-Reedy's page 20 the head title is "Aids for Preventing Bearing Wear and Column Failures," and the corresponding title on Hydro-Line's page 9 is "How to Determine if Oversize Rod is Needed." But in the lower left hand corner of page 9 is the heading "Information for Avoiding Excessive Bearing Wear." In the right hand column of both pages 9 and 20 are set forth the steps required "to determine if an oversize piston rod is required . . ." (page 9); and "to determine *minimum* piston rod diameter on push stroke cylinders" (page 20). The left hand side of each page is devoted to illustrations of various types of

1. We set aside the question of the computations in the charts, which the district court could well have found, if need be, were independently calculated by Hydro-Line. We are not concerned with a claim of infringement of the calculations, but with the manner in which the calculations, along with other matter, was presented.

cylinders with the values of "L" in the formula indicated and information on avoidance of excessive bearing wear by the use of stop tubes. The right hand side of each page contains the steps for determining required piston rod diameters, and in the bottom right hand corner of each page is a table showing rod diameters for various thrusts and rod lengths.

Both Flick-Reedy's page 22 and Hydro-Line's page 10 contain on the left half of each page large, practically identical numerical charts titled "Information on Forces Required for Acceleration and Deceleration" (page 10) and "Table for Quickly and Easily Determining Distances and Forces Required to Start and Stop Cylinder Piston Travel When Loads and Speeds are Known" (page 22). In this instance again Hydro-Line's chart is blocked out in red lines, with Flick-Reedy's in black with the two left hand columns of figures shaded in grey and the other alternate columns shaded in red. The right hand portion of each page is taken up with formulae and explanations and examples for their use in connection with the chart in determining acceleration and deceleration values.

Flick-Reedy's certificate of registration is prima facie evidence of the validity of its copyright and Hydro-Line had the burden of overcoming this presumption of validity. 17 U. S. C. § 209; *Wihtol* v. *Wells*, 231 F. 2d 550, 553 (7th Cir. 1956). The district court erred in holding that this burden was met by showing that some of the computations and formulae in Flick-Reedy's bulletin were in the public domain, for the copyright was valid as a revision and new arrangement of such material.

From an examination of the exhibits and the testimony we also conclude that the district court clearly erred in finding no infringement and no substantial copying of the two pages of Flick-Reedy's bulletin in question by Hydro-Line.

The district court erred also in finding that there was no showing that Hydro-Line's publication and distribution of its free sales bulletin will in any way detract from the value of Flick-Reedy's bulletin. The number of pages charged to be infringed is small (only two of thirty-two), but the evidence showed that these were the most important pages from the standpoint of keeping the bulletin in front of potential customers. The major part of each bulletin is given over to advertisements, performance charts and other data pertinent to the manufacturer's products. On the pages in question, however, appears information useful generally to users of cylinders. One of the chief purposes of distributing this information is to keep the advertising before the users. A particular presentation of the information which will cause a user to consult the bulletin can therefore be of substantial value to the manufacturer who distributes the bulletin.

We reverse the judgment of the district court insofar as it holds the copyright on Flick-Reedy's pages 20 and 22 invalid and not infringed, and we remand for further proceedings with respect to the relief prayed for.

PATENT No. 2,842,284.

The district court's findings of fact 7 through 15, reported at 241 F. Supp. 127, 130-32, and which we adopt, describe the plaintiff's patented seal for use in preventing leakage between the end of a cylinder tube and the head. The findings of fact and the patent specifications and claims make clear that an essential element of the patent is the "sealing relation" between the outer machined surface of the reduced thickness at the end of the tube and the outer surface of the recessed groove in the head. This sealing relation is described in terms of "absolute concentricity," "zero clearance" and a "metal to metal contact provided between the head and the cylinder tube

[which] performs the function of sealing against fluid leakage. . . . " The specilcations state that the outer surface of the reduced thickness section is formed with a "special tool." This "special tool" is not disclosed or described in the specifications or claims.

Flick, the president of plaintiff and inventor of the seal, testified that the "special tool" was an "aid" in achieving the required concentricity and that he contemplated using the tool at the time the patent application was filed. When asked what the tool was, Flick stated

> [W]e must use a mechanical tracer tool. I am sorry to have to tell you what it is. These sort of things cost us a lot of money to develop.
>
> Anyone of the four types, mechanical, air tracer, electronic tracer, or hydraulic tracer tool can be used.

He further told the court

> Your Honor,, there are times when you could apply for a patent, I beliece, but the enforcement thereof, where it is a tool used for an exclusive purpose in a plant, the enforcement thereof would be most difficult, and you may elect to try to keep the information of a secret nature.
>
> * * * * *
>
> This is what we elected to do.

Flick also testified that he did not believe that mechanical tracer tools, which his company used, were well known for this purpose, and there was expert testimony that a person skilled in the art would not know from reading the patent specifications what was meant by the "special tool."

The district court concluded that the patent is invalid because plaintiff withheld specific information concerning the "special tool" used in finishing the metal surfaces, in violation of 35 U. S. C. § 112. That Section, in pertinent part, provides:

> The specification shall contain a written description of the invention, and of the manner of making and

> using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, *and shall set forth the best mode contemplated by the inventor of carrying out his invention.* (Emphasis supplied.)

The Constitutional provision and implementing patent law are intended to reward with a seventeen-year monopoly an inventor who "refrains from keeping his invention a trade secret." *Universal Oil Products Co.* v. *Globe Oil & Refining Co.*, 322 U. S. 471, 484 (1944). The *quid pro quo* for the monopoly is disclosure which will enable those skilled in the art to practice the invention at the termination of the monopoly, and to "warn the industry concerned of the precise scope of the monopoly asserted." *Id.* To accept the monopoly and withhold the full disclosure of the "best mode contemplated by the inventor," which will result in a contribution to the common good upon expiration of the monopoly is the "selfish desire" against which 35 U. S. C. § 112 is directed. *Application of Nelson*, 280 F. 2d 172, 184 (C. C. P. A. 1960). The record before us shows that the patent specifications disclosed neither what the special tool is nor where a description of it may be found in any prior art. *Application of Hirsch*, 295 F. 2d 251, 254 (C. C. P. A. 1961), *cert. denied* 369 U. S. 888 (1962).

We hold that the district court's findings on this point are not clearly erroneous and that its conclusion of invalidity because specific information about the "special tool" was withheld in violation of 35 U. S. C. § 112 is supported by substantial evidence. On this issue we affirm the judgment. Since we hold that the patent was invalid on this basis, we need not consider the other contentions raised with respect to this issue.

PATENT NO. 2,798,777.

Plaintiff charged that claims 1, 2 and 4 of its patent on lug mounts designed to hold a cylinder rigidly to a machine tool base were infringed by defendant's manufacture and sale of its now obsolete models NE and RE mounts and that claims 2 and 4 are infringed by defendant's current type of mounting device, models N_2E and R_2E. Defendant admits that if the patent is valid it was infringed by its models NE and RE, but asserts that the patent is invalid and denies infringement by its N_2E and R_2E devices.

The district court found the patent valid and infringed by all four types of defendant's mounts and enjoined defendant from further infringement and ordered an accounting. We adopt the findings and conclusions of the district court, 241 F. Supp. 127, insofar as they find claim 1 of the patent valid and infringed by defendant's models NE and RE, but we reverse the judgment insofar as it holds claims 2 and 4 of the patent valid and infringed by defendant's models N_2E and R_2E.

Plaintiff's mount consists of a lug, or extended square nut, one of which is threaded directly upon each end of the tie rods at the bottom of a cylinder where it is to be attached to a base. The tie rods pass through holes in each of the corners of the heads and have the function of holding together the entire cylinder assembly. Prior mounting devices consisted of angle iron or solid blocks of metal, drilled to match the tie rods, and fastened onto the tie rods with separate nuts. The cylinder was then mounted on the base by means of mounting bolts or other fasteners placed vertically through the angle iron or mounting block and the base. Plaintiff's single-lug mounts have mounting bolt holes drilled through them in line with, and perpendicular to, the tie rod threads. The lugs

are of such size that when threaded upon the tie rods in mounting position, the plane of the bottom surface of the lug is slightly inward from the plane of the bottom surface of the head, with the result that pressure from tightening the mounting bolt is transmitted through the tie rod; and the head, and not the lug, is held precisely against the base.

Advantages claimed by the patentees for their mounting lugs were (1) the rigid mounting of head to base because of the spacing of the lugs inwardly from the periphery of the head, (2) added rigidity and stability because the mounting bolts are longitudinally in line with the tie rods, (3) ease of attachment or removal without substantially disturbing the cylinder assembly, (4) interchangeability with other types of mounts, and (5) compact size, assuring minimum interference with cylinder operation and placement. The chief item of prior art relied upon by defendant in support of its claim of invalidity is the Modernair mount, which consists of a solid bar fastened to the tie rods by separate nuts and with mounting bolt holes spaced inwardly from the tie rod holes. The district court found that there was no evidence that the solid bar of the Modernair mount had ever been mounted inwardly from the periphery of the head to insure that the head was held precisely against the mounting surface, and concluded that neither the Modernair device, nor the other art cited by defendant anticipated plaintiff's mounting device. This conclusion is supported by substantial evidence and findings of fact which are not clearly erroneous.

While each of the separate elements of plaintiff's device may be somewhat minimal, we think that the combination of these elements into a single device achieving the advantages listed above produced a "new" useful and unobvious" whole, *Anderson Co.* v. *Sears, Roebuck and Co.*, 265 F. 2d 755, 762-63 (7th Cir. 1959), and that the

district court did not err in holding that defendant failed to overcome the presumption of validity of claim 1 of plaintiff's lug patent.

The main feature by which plaintiff distinguished its lug mount patent over the prior art, and the chief advantage asserted for it here, is described in claim 1 as follows:

> said lugs having sides spaced slightly inwardly of the sides of the adjacent head to secure the head against the base. . . .

This feature is not an element of claims 2 and 4, which plaintiff charges are infringed by defendant's N_2E and R_2E mounts. Lacking this element, claims 2 and 4 are not sufficiently distinguished over the prior art and do not rise to the dignity of invention within the rule of *Pleatmaster, Inc.* v. *J. L. Golding Mfg. Co.*, 240 F. 2d 894 (7th Cir. 1957). We therefore hold that claims 2 and 4 of plaintiff's lug mount patent are invalid. Since we hold the claims invalid, we need not consider the question of infringement with respect to them.

The judgment is affirmed as to Patent No. 2,842,284 and reversed as to the copyright in case No. 14804; and the judgment is affirmed in part and reversed in part as to Patent No. 2,798,777 in case No. 14805, and the cause is remanded for further proceedings in accordance with this opinion.

ORDER DENYING REHEARING.

(Entered Nov. 10, 1965.)

UNITED STATES COURT OF APPEALS,

For the Seventh Circuit.

Chicago, Illinois 60604.

Wednesday, November 10, 1965.

Before

Hon. Latham Castle, Circuit Judge;
Hon. Roger J. Kiley, Circuit Judge;
Hon. Frederick O. Mercer, District Judge.

FLICK-REEDY CORPORATION, a corporation, *Plaintiff-Appellant, (Cross Appellee),*

No. 14804-05 *vs.*

HYDRO-LINE MANUFACTURING COMPANY, a corporation, *Defendant-Appellee, (Cross Appellant).*

Appeals from the United States District Court for the Northern District of Illinois, Eastern Division.

It Is Ordered by the Court that the petition for a rehearing filed herein by Flick-Reedy Corporation, and the petition for a rehearing filed herein by Hydro-Line Manufacturing Company be, and the same are hereby Denied.